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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/016,844 | 12/14/2001 | Kevin Harris Becker | 1978.EEM | 8825 |

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EXAMINER

SELLERS, ROBERT E

| ART UNIT | PAPER NUMBER |
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1712

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,844

Applicant(s)

BECKER ET AL.

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

This is responsive to the Request for Continued Examination, the amendment and 37 CFR 1.132 declaration filed September 29, 2004.

Claims 8 and 9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the replies filed on October 3, 2003 and March 5, 2004.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

1. There is no enablement for the newly claimed second composition comprising a curable compound and curing initiator or curing agent different from those in the first composition in general.

The specification on pages 5-6, paragraphs 17-20 set forth certain combinations of first and second compositions which do not enable the myriad blends of compositions within the broadly defined first and second compositions.

2. More favorable consideration would be given to claims limited to "a combination of first and second compositions selected from the group consisting of

i) a first composition comprising an acrylic resin and a free radical curing agent, with a second composition comprising an epoxy resin and a latent amine or imidazole curing initiator;

ii) a first composition comprising a cycloaliphatic diepoxide and a photoinitiator, with a second composition comprising an aromatic epoxy resin, a phenolic resin hardener and a phosphine-based curing initiator;

iii) a first composition comprising an acrylic resin and a photoinitiator, with a second composition comprising an epoxy resin and a latent amine or imidazole curing initiator;

iv) a first composition comprising a bismaleimide and a vinyl ether, vinyl silane, styrenic compound or cinnamyl compound, with a second composition comprising an epoxy resin and a latent amine or imidazole curing initiator."

3. Independent claim 1 has been amended to include a "curable compound" which is not enabled by the specification. The specification on page 3, paragraph 9 describes a monomeric, oligomeric or polymeric compound or resin as opposed to a compound which embraces any material participating in a cure. More favorable consideration would be given to the replacement of the term "curable compound" with a "curable monomeric or polymeric compound or resin."

4. The stipulation requiring the first composition to cure without curing the second composition has been deleted. The specification on pages 2-3, paragraph 8 and page 4, paragraph 12, indicates the necessity for the second composition to remain uncured until final curing. The deletion of the stipulation unduly broadens the scope of the claim outside of the enabled disclosure and should be reinstated for proper enablement.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5 are rejected under 35 U.S.C. 102(a) as being anticipated by Satoh et al. Patent No. 6,187,416.

Claims 1 and 3-5 are rejected under 35 U.S.C. 102(a or b) as being anticipated by Capote et al. Patent Publication No. 2001/0020071 or Japanese Patent No. 55-65217 (Japanese '217) or Young Patent No. 4,816,531 or Jackson Patent No. 5,081,167.

Claims 6 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied hereinabove, and further in view of Roth et al. Patent No. 6,194,490; Marshall et al. Patent No. 3,746,686 and Japanese Patent No. 57-100128 (Japanese '128).

Yoshino et al. is rescinded since according to Figure 4A (col. 6, lines 24-32), the first adhesive 8a and the second adhesive 8b are separately applied to the substrate, thereby not constituting a B-stageable adhesive composed of a blend of two compositions as claimed.

Japanese Patent No. 61-237436 and Gordisher et al. are withdrawn due to the newly claimed limitation that the curing initiator or curing agent for the first and second compositions must be different.

Otherwise, the rejections are maintained for the reasons of record set forth in the previous Office actions. The arguments presented in the Remarks section of the amendment filed September 29, 2004 are merely a reiteration of those presented in the amendment filed March 5, 2004 according to the penultimate paragraph under the first page of the Remarks section. These traversals have been addressed on page 3 of the Final rejection mailed March 30, 2004.

5. Satoh et al. (cols. 4-5, Example 1) shows an adhesive containing a first composition of an epoxy resin and a curing accelerator mixed with a second composition with a bismaleimide, an "aromatic polymer having functional group polymerizable with epoxy resin or bismaleimide compound (col. 4, lines 44-45)" which is a hydroxyl groups-containing polyether sulfone. Thus, the first and second compositions possess different curable compounds and curatives as required by the claims.

6. It is unclear whether the Example 1 of Satoh et al. produced in paragraph 7 of the declaration is representative of the closest prior art blend of compositions since it cannot be ascertained whether the Radel A-104P polyether sulfone contains hydroxyl groups as present in the hydroxyl groups-containing polyether sulfone of Satoh et al. The Chemical abstracts registry number for Radel A-104P could not be found. The closest trade name having a registry number is Radel A-100 which does not contain any hydroxyl groups according to the structure depicted in registry number 25839-81-0. Consequently, the lack of a dual cure profile in Figure 2 of Satoh et al. could be attributable to the non-reactivity of the Radel A-104P polyether sulfone which does not reflect the stated reactivity of the hydroxyl group in the polyether sulfone of Satoh et al.
7. Jackson (col. 5, Example 2 and col. 6, Table 1) shows an adhesive prepared from a first composition of a bisphenol A novolac epoxy resin and a bisphenol A novolac curing agent blended with a second composition of a bismaleimide and a 2-methyl imidazole accelerator. The first and second compositions have different curable compounds and curatives as defined in the claims.
8. Example 1 of Jackson in the declaration is not representative of the closest prior art Example 2 which contains both a phenolic resin curing agent and a 2-methyl imidazole accelerator.
9. Capote et al. (col. 14, Example 4) shows a blend of an epoxy resin, a cyanate ester resin and a bismaleimide with co-curing agents (i.e. 2-allyl phenyl glycidyl ether and 2,2'-diallyl bisphenol A diepoxide) along with copper acetylacetonate which is a trimerization catalyst for the cyanate ester resin (col. 12, lines 64-67).

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9. Capote et al. (col. 14, Example 4) shows a blend of an epoxy resin, a cyanate ester resin and a bismaleimide with co-curing agents (i.e. 2-allyl phenyl glycidyl ether and 2,2'-diallyl bisphenol A diepoxide) along with copper acetylacetonate which is a trimerization catalyst for the cyanate ester resin (col. 12, lines 64-67). Therefore, the claimed requirement that the curable resins and curatives between the two compositions be different is satisfied.
10. Similar to Jackson, Young (col. 6, Example 2) shows a first composition containing an bisphenol A novolac epoxy resin and a bisphenol A novolac curing agent combined with a second composition of a bismaleimide wherein 2-methyl imidazole as an accelerator is added. The imidazole functions as a curing initiator for both the epoxy resin and bismaleimide as acknowledged by Jackson (col. 3, lines 42-57) and Young (col. 4, lines 1-15). The specification is open to the presence of an imidazole curing agent with both an epoxy resin and bismaleimide according to page 6, paragraph 20.
11. Japanese '217 discloses two different curable resins of a bismaleimide and an epoxy resin admixed with diverse curing agents of an epoxy resin hardener and a photoinitiator, thereby conforming to the current claim language.
12. More favorable consideration with respect to all of the outstanding rejections would be given if the claims are limited to the enabled combinations of first and second compositions in the form presented in paragraph 2 hereinabove. None of the cited prior art recites the combinations of first and second compositions with the specific curable compounds and curing agents or initiators described in paragraphs 17-20 on pages 5-6 of the specification.

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